© Entomological Society of Indochina
អ្នកជំនាញខាងជាណកសាស្ត្រឥណ្ឌូចិន
The Indochina Entomologist
OPEN ACCESS
New Taxon
ICE, 1 (86): 853–861 (2025)
ISSN (Online) 3065-1107
www.indochinaentomologist.com

https://doi.org/10.70590/ice.2025.01.86
http://zoobank.org/urn:lsid:zoobank.org:pub:20614FFD-980A-41BB-A33B-B9CA7CF29C18

# A new species of the genus *Morphostenophanes* Pic, 1925 (Coleoptera, Tenebrionidae, Cnodalonini) from Vietnam

**Yu-Zhou HUANG**

College of Plant Protection, Hunan Agricultural University, Changsha 410128, China;
https://orcid.org/0000-0002-0884-1408; hyz760466847@163.com

**Abstract:** A new species of the genus *Morphostenophanes*, *M. orichalcos* **sp. nov.**, is described from Vietnam. Habitus and diagnostic characters of the new species are illustrated.

**Keywords:** darkling beetles, morphology, Oriental Region, Stenochiinae, taxonomy

# 越南窄亮轴甲属一新种记述（鞘翅目，拟步甲科，轴甲族）

**黄宇辀**

植物保护学院，湖南农业大学，长沙 410128，中国

**摘要：**本文描述了产自越南的窄亮轴甲属（*Morphostenophanes*）一新种——山铜窄亮轴甲（*M. orichalcos* **sp. nov.**）。文中展示了该新种的整体形态和鉴别特征图。

**关键词：**拟步甲，形态学，东洋区，树甲亚科，分类学

**Citation:** Huang Y-Z 2025: A new species of the genus *Morphostenophanes* Pic, 1925 (Coleoptera, Tenebrionidae, Cnodalonini) from Vietnam. *The Indochina Entomologist*, 1 (86): 853–861. [黄宇辀 2025: 越南窄亮轴甲属一新种记述（鞘翅目，拟步甲科，轴甲族）. 中南半岛昆虫学家, 1 (86): 853–861.]
https://doi.org/10.70590/ice.2025.01.86

Accepted by Cheng-Bin WANG: 2.XII.2025; published online: 7.XII.2025

Copyright Yu-Zhou HUANG. This is an open access article distributed under the terms of the Creative Commons Attribution License (CCBY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## Introduction

The wingless genus *Morphostenophanes* Pic, 1925 includes 31 species and subspecies whose life histories are intimately connected to the montane habitats. Zhou (2020) revised the genus *Morphostenophanes* and established six species groups: *M. aenescens* species group, *M. chongli* species group, *M. metallicus* species group, *M. atavus* species group, *M. elegantulus* species group, and *M. jendeki* species group; meanwhile, 20 new species and subspecies were described, all of them were reported from the Chinese fauna, except for *M. chongli glaber* Zhou, 2020 which was also reported from Vietnam.

In the present study, a new species of the *M. aenescens* species group, *M. orichalcos* **sp. nov.** from Vietnam is described and illustrated. A comparison with the most similar species, *M. purpurascens* Zhou, 2020, is provided in the differential diagnosis.

## Material and methods

Specimens examined in this study are deposited at the following institution and private collections:

**IZCAS** Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

**CDYZ** Private Collection of De-Yao Zhou, Shanghai, China.

**CYZH** Private Collection of Yu-Zhou Huang, Changsha, China.

Specimens were softened in distilled water. Dissected parts were cleared in 10% KOH solution and then examined under a stereomicroscope. Habitus images were captured using a Sony ILCE-7CII camera equipped with a Laowa FF 100 mm f/2.8L Macro 2:1 Lens. Images of morphological details were taken with a Laowa 25 mm f2.8 2.5-5× Ultra Macro Lens. Two CN-T96 LED were serving as the light sources during imaging. Image stacking was performed with Helicon Focus ver. 6.7.1. All images were edited and compiled into plates using Adobe Photoshop CC 2019.

Measurements and the abbreviations are as follows: BL—length between the apex of the clypeus and the elytral apex along the mid-line; EL—length of elytra along midline; EW—maximum width of elytra; OI—ocular index (Campbell & Marshall 1964); PL—length of pronotum along midline; PW—maximum width of pronotum.

Distribution information was compiled from Zhou (2020) and the label data of the specimens examined in this study. Morphological terminology follows Zhou (2020).

## Taxonomy

### Genus *Morphostenophanes* Pic, 1925

*Morphostenophanes* Pic, 1925: 7. **Type species:** *Morphostenophanes aenescens* Pic, 1925, by original designation.

*Promorphostenophanes* Kaszab, 1960: 277. **Type species:** *Promorphostenophanes atavus* Kaszab, 1960, by original designation. Also misspelled *Pseudomorphostenophanes* in one figure caption of Kaszab 1980: 218.

### Checklist for species of *Morphostenophanes aenescens* species group

*Morphostenophanes aenescens* Pic, 1925 China (Yunnan)

*Morphostenophanes aenescens yelang* Zhou, 2020 China (Yunnan)

*Morphostenophanes cuproviridis* Gao & Ren, 2009 China (Guizhou)

*Morphostenophanes curvitibialis* Zhou, 2020 China (Guangxi)

*Morphostenophanes iridescens* Zhou, 2020 China (Yunnan)

*Morphostenophanes luoxiaoshanus* Zhou, 2020 China (Hunan, Hubei, Jiangxi)

*Morphostenophanes orichalcos* **sp. nov.** Vietnam (Hà Giang)
*Morphostenophanes papillatus* Kaszab, 1941 China (Chongqing, Guizhou, Sichuan, Yunnan)
*Morphostenophanes purpurascens* Zhou, 2020 China (Yunnan)
*Morphostenophanes yunannus* Zhou, 2020 China (Yunnan)

## *Morphostenophanes orichalcos* sp. nov. 山铜窄亮轴甲

https://zoobank.org/A83B921B-A110-4E7B-AEB7-55EA6716D5CD

Figs 1–4

**Type materials. Holotype: VIETNAM:** ♂ (IZCAS), Hà Giang province, Mount Thái An, 1,500–1,700 m, 2025. VI, local people leg. **Paratypes: VIETNAM:** 1♂ (CDYZ) same data as holotype; 1♀ (CYZH) ditto except "2024.VII"; 1♀ (CYZH) ditto except "2022.VII".

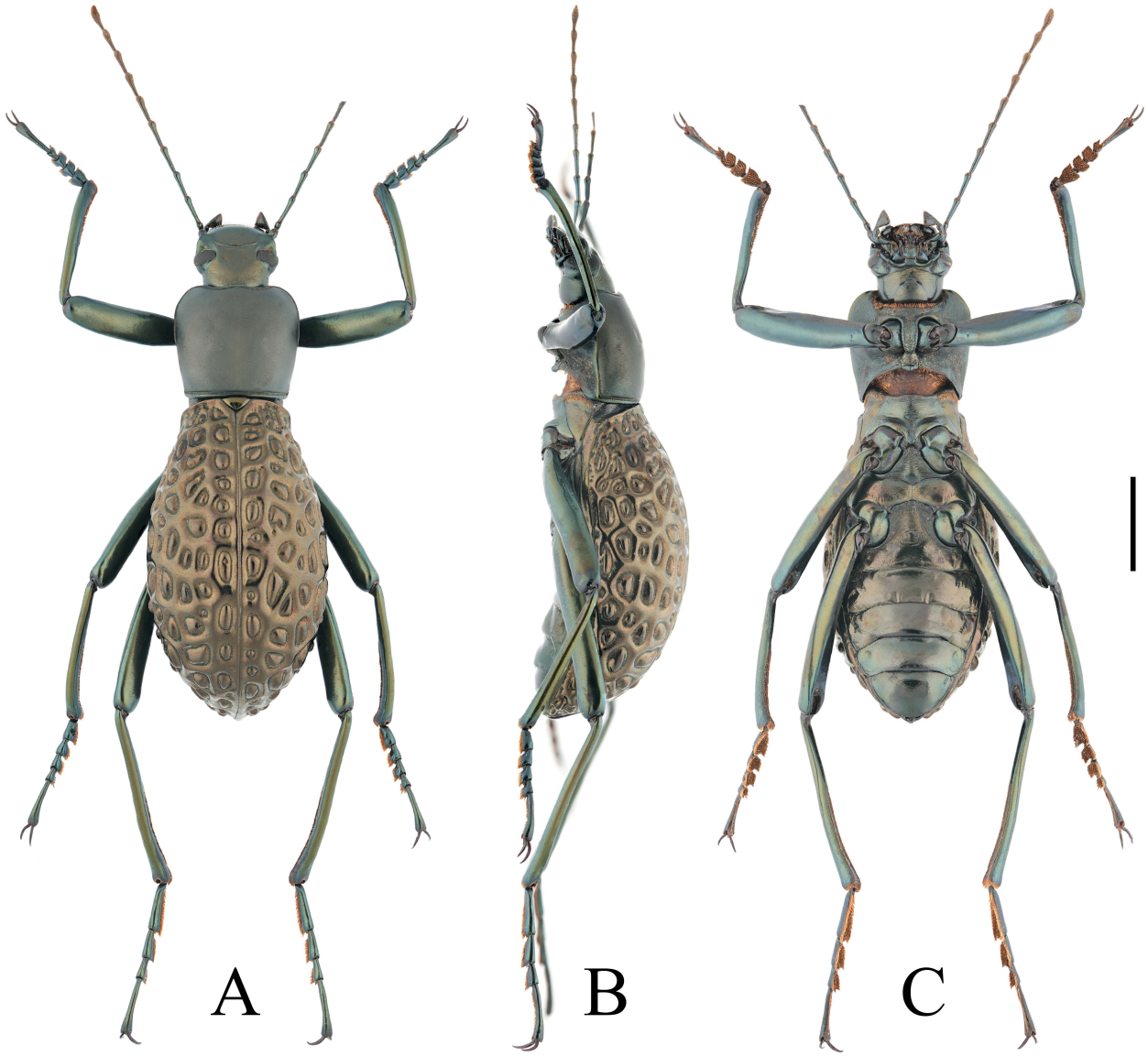


**FIGURE 1.** Habitus of *Morphostenophanes orichalcos* **sp. nov.**, ♂, holotype: **A** dorsal view **B** lateral view **C** ventral view. Scale bar: 5 mm.

**Description. Holotype male** (Figs 1, 3, 4A–E). Body elongated, strongly convex dorsally. Overall dark green with shiny, coppery elytra, pronotum extremely dark and matt.

**Head** (Fig. 3D, E) transversely hexagonal, widest between eyes; finely punctate; frontoclypeal suture U-shaped, deeply sulcate; clypeus broad, slightly convex in middle, gently curved downwards anteriorly, with a short transverse impression near frontoclypeal suture; anterior margin nearly straight, emarginate in middle; labrum transverse, sparsely with long setae; genae rounded and protruding anterior to the eyes; frons broad and flat, gently sloping forwards, frontal and vertexal lateral impressions marked; eyes reniform, and transverse; inner ocular sulci thin, moderately grooved; tempora weakly convex. Antennae (Fig. 3H) slender, reaching basal third of elytra; antennomeres I–II short, antennomeres III–X slender, widest near apex; antennomere XI oblong-oval; antennomeres I–IV nearly smooth; antennomeres V–XI pubescent; relative lengths of antennomeres I–XI: 0.90: 0.42: 1.55: 1.40: 1.51: 1.50: 1.41: 1.34: 1.31: 1.25: 1.45. Mentum (Fig. 3E) transversely trapezoidal; anterior margin straight, lateral margins feebly convex; with sparse setae in large punctures in middle.

**Pronotum** (Fig. 3F) transversely trapezoidal, widest at anterior third; surface matt, punctures smaller and sparser than those on the head; anterior margin bisinuate; lateral margins converging posteriorly; the anterior and lateral marginal rims continuous, visible in dorsal view along anterior half; posterior margin rimmed, nearly straight; anterior angles rounded protruding, posterior angles obtuse; disc strongly convex, with a pair of vague impressions symmetrically. Scutellum triangular, shiny, moderately convex.

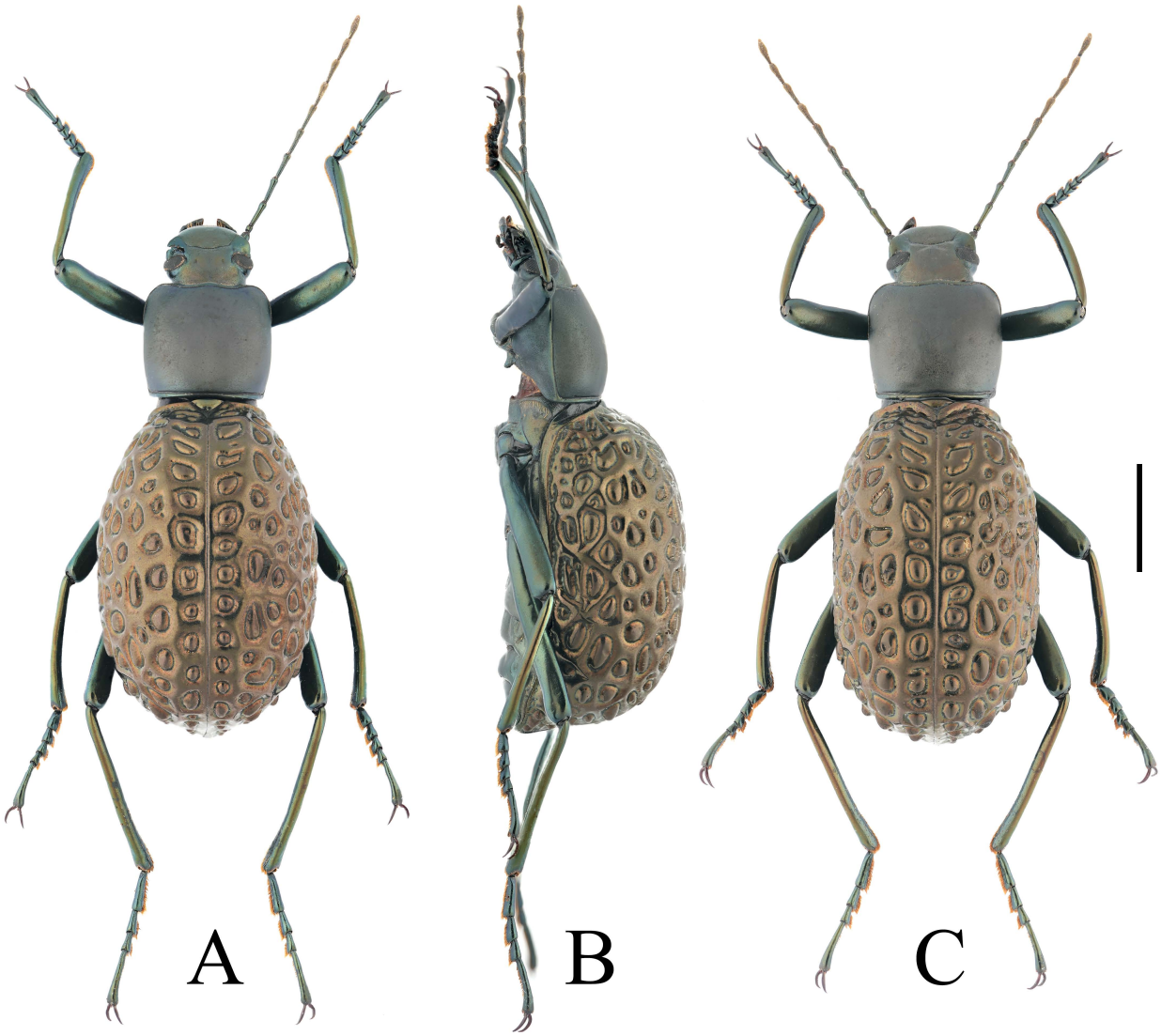


**FIGURE 2.** Habitus of *Morphostenophanes orichalcos* **sp. nov.**, ♀, paratypes: **A, C** dorsal views **B** lateral view. Scale bar: 5 mm.

**Elytra** (Fig. 1A, B) olivary, widest at basal 4/7; strongly convex, highest near middle, strongly bent downwards after the highest point; anterior margin distinctly convex; surface shiny, finely punctate, with rows of ring-like depressions with raised centers.

**Prosternum** (Fig. 3G) wrinkled, with conical prosternal process sloping downwards, pointed apically; hypomeron punctate. Mesosternum wrinkled, scattered with fine punctures. Metasternum transverse, metasternal process between mesocoxae wrinkled, feebly convex in middle; remaining part of metasternum shiny.

**Abdomen** (Fig. 3I) shiny as metasternum; distinctly bent downwards in lateral view; lateral margins convergent from ventrite I towards apex; ventrite I wrinkled between metacoxae; ventrite V rimmed laterally, the rims interrupted in middle.

**Legs** (Fig. 3A–C) slender; all femora nearly straight. Protibiae curved in apical third, with inner margin pubescent on apical 3/5; mesotibiae curved in apical fourth, with inner margin pubescent on apical 4/7; metatibiae sinuous, with inner margin weakly pubescent on apical 3/5, outer margins depressed near apices. Basal 3 segments of protarsi moderately dilated.

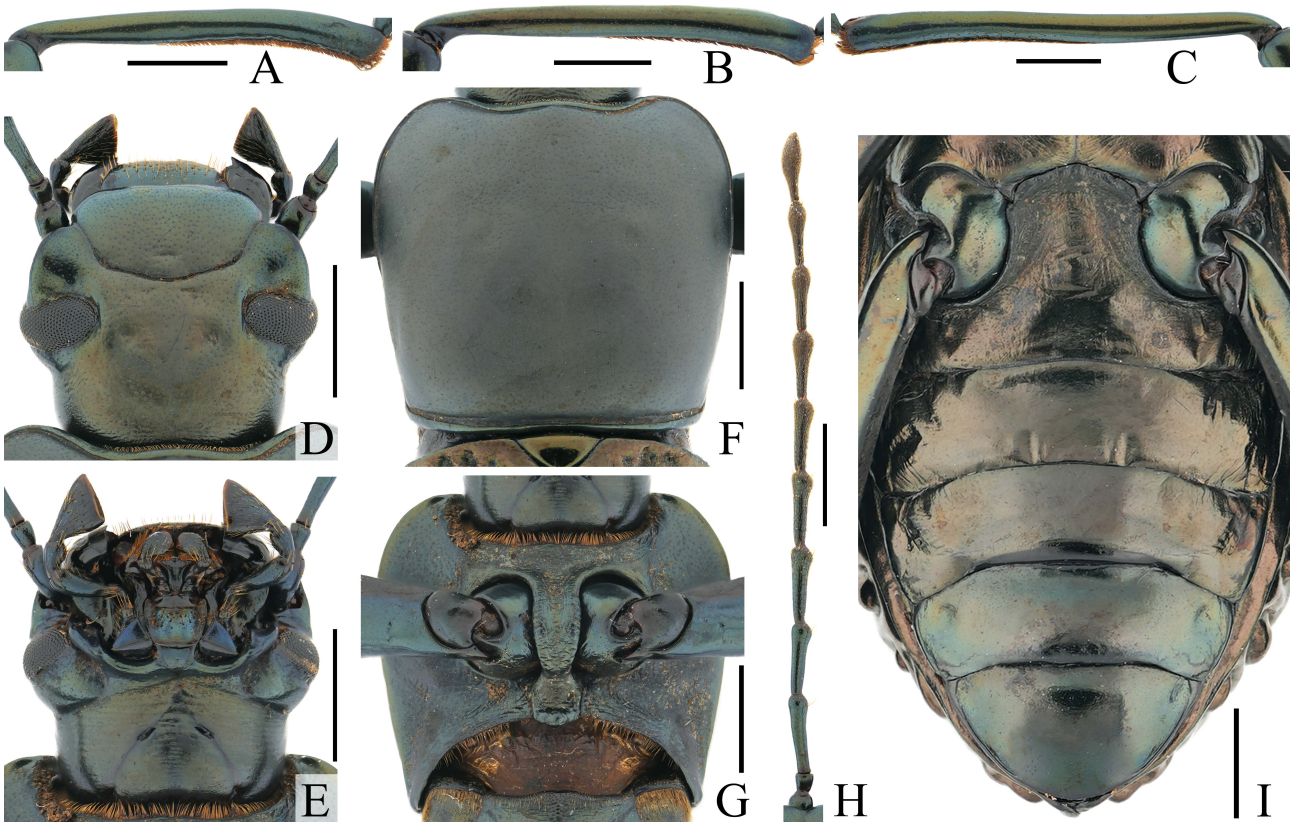


**FIGURE 3.** External characters of *Morphostenophanes orichalcos* **sp. nov.**, ♂, holotype: **A** protibia, dorsal view **B** mesotibia, ventral view **C** metatibia, dorsal view **D** head, dorsal view **E** ditto, ventral view **F** prothoraces, dorsal view **G** ditto, ventral view **H** antenna, dorsal view **I** abdomen. Scale bars: 2 mm.

**Aedeagus** (Fig. 4A, B) slender, curved in lateral view; parameres constricting forwards and produced to a flabellate apex. Sternite VIII (Fig. 4D, E) laterally with a pair of sclerotized apical lobes hooked downwards.

**Measurements.** BL: 26.6 mm; EL 17.5 mm; EW 9.8 mm; PL 5.9 mm; PW 6.8 mm; OI: 48.8; EL/EW 1.79; PW/PL 1.15.

**Female** (Figs 2, 4F). Body shorter, elytra more convex than male, gently convex in middle; legs slenderer and shorter; ovipositor (Fig. 4F) strongly sclerotized, blade-shaped, pointed at apex.

**Measurements.** BL 24.2–24.5 mm; EL 16.0–16.3 mm; EW 9.7–10.4 mm; PL 5.3–5.5 mm; PW 6.1–6.3 mm; OI: 51.5–52.0; EL/EW 1.54–1.68; PW/PL 1.14–1.15.

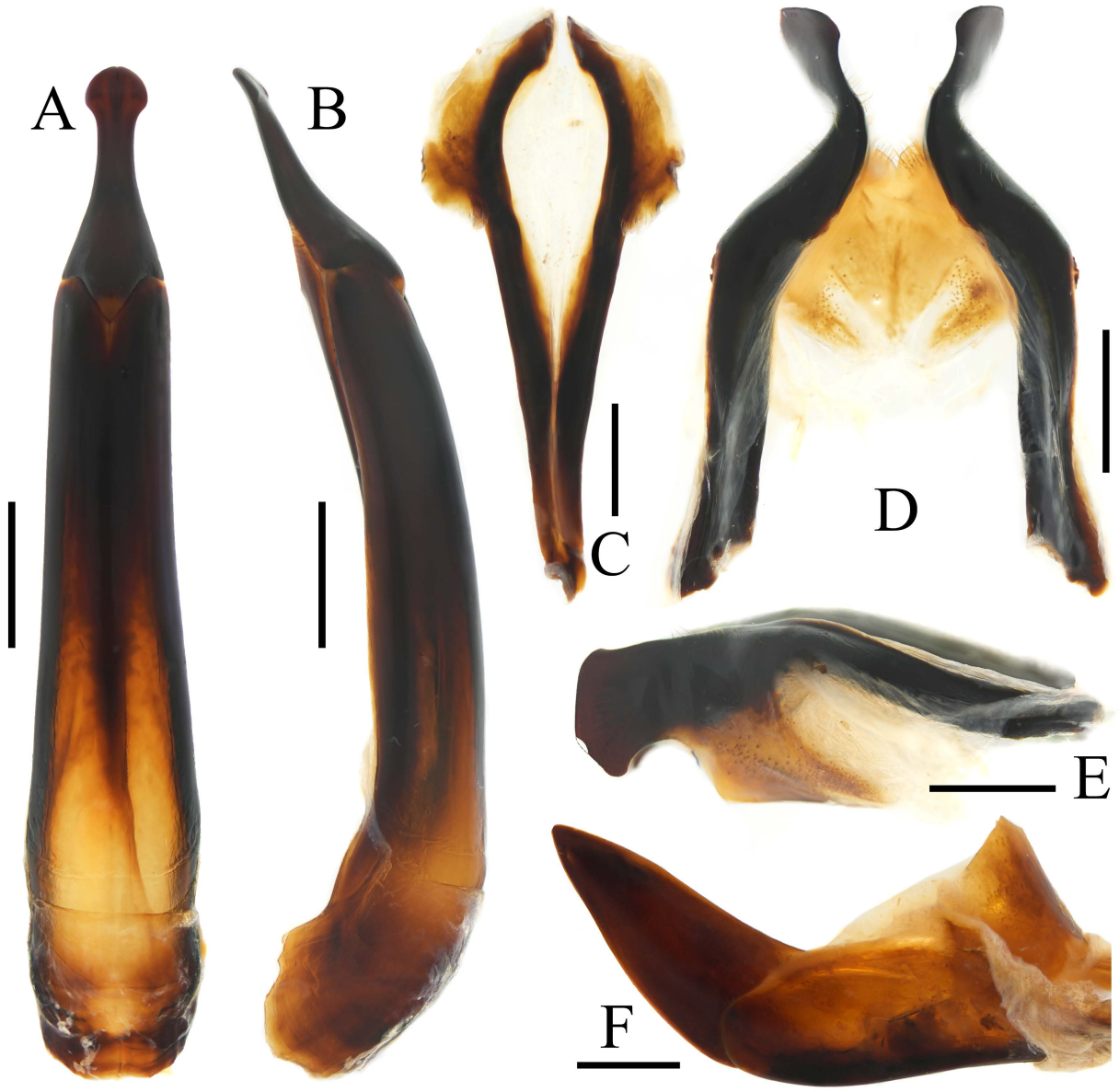


**FIGURE 4.** Anatomic structures of *Morphostenophanes orichalcos* **sp. nov.**: **A–E** ♂, holotype **A** aedeagus, dorsal view **B** ditto, lateral view **C** spiculum gastrale **D** sternite VIII, dorsal view **E** ditto, lateral view **F** ♀, paratype, ovipositor, lateral view. Scale bars: 1 mm.

**Variability.** Measurements of the paratype male: BL: 25.4 mm; EL 16.1 mm; EW 9.2 mm; PL 5.8 mm; PW 6.2 mm; OI: 52.1; EL/EW 1.75; PW/PL 1.07.

**Differential diagnosis.** This new species is most similar to *Morphostenophanes purpurascens* Zhou, 2020 in its larger body size and conical prosternal process pointed. However, it can be readily distinguished from the latter by the presence of a bicolored body, dark green appendages, less protuberant genae, a broader pronotum, and shorter, more strongly convex elytra.

**Etymology.** The specific epithet "*orichalcos*" is derived from the Greek term "oríkhalkos (ὀρείχαλκος)", a mysterious metal from the legend of Atlantis, usually described in ancient Greco-Roman literature as a golden-yellow copper alloy. As a specific name, it refers to the distinctive brassy-bronze lustre on elytra of the new species. The name is treated as a noun in apposition.

**Distribution.** Vietnam (Hà Giang) (Fig. 6).

**Remarks.** The presence of arranged and complete ring structures on the elytra, weakly pubescent inner margins

of metatibiae, and a shortened ovipositor placed this species within the *aenescens*-group (Zhou 2020). Distributional proximity and morphological similarity provide evidence for a close relationship between this species and *M. purpurascens* Zhou, 2020. Furthermore, with the type locality of *M. oricalcos* **sp. nov.** situated merely 25 km from Yunnan, China, the species is strongly suggested to be a member of the Chinese fauna.

## *Morphostenophanes purpurascens* Zhou, 2020

Fig. 5

*Morphostenophanes purpurascens* Zhou, 2020: 22 (**type locality:** Yunnan**,** Pingbian County, Mount Dawei).

**Material examined. CHINA:** 1♂, 1♀(CYZH), Yunnan, Pingbian County, Mount Dawei, 2021.VIII.1, He Hao leg.

**Distribution.** China (Yunnan).

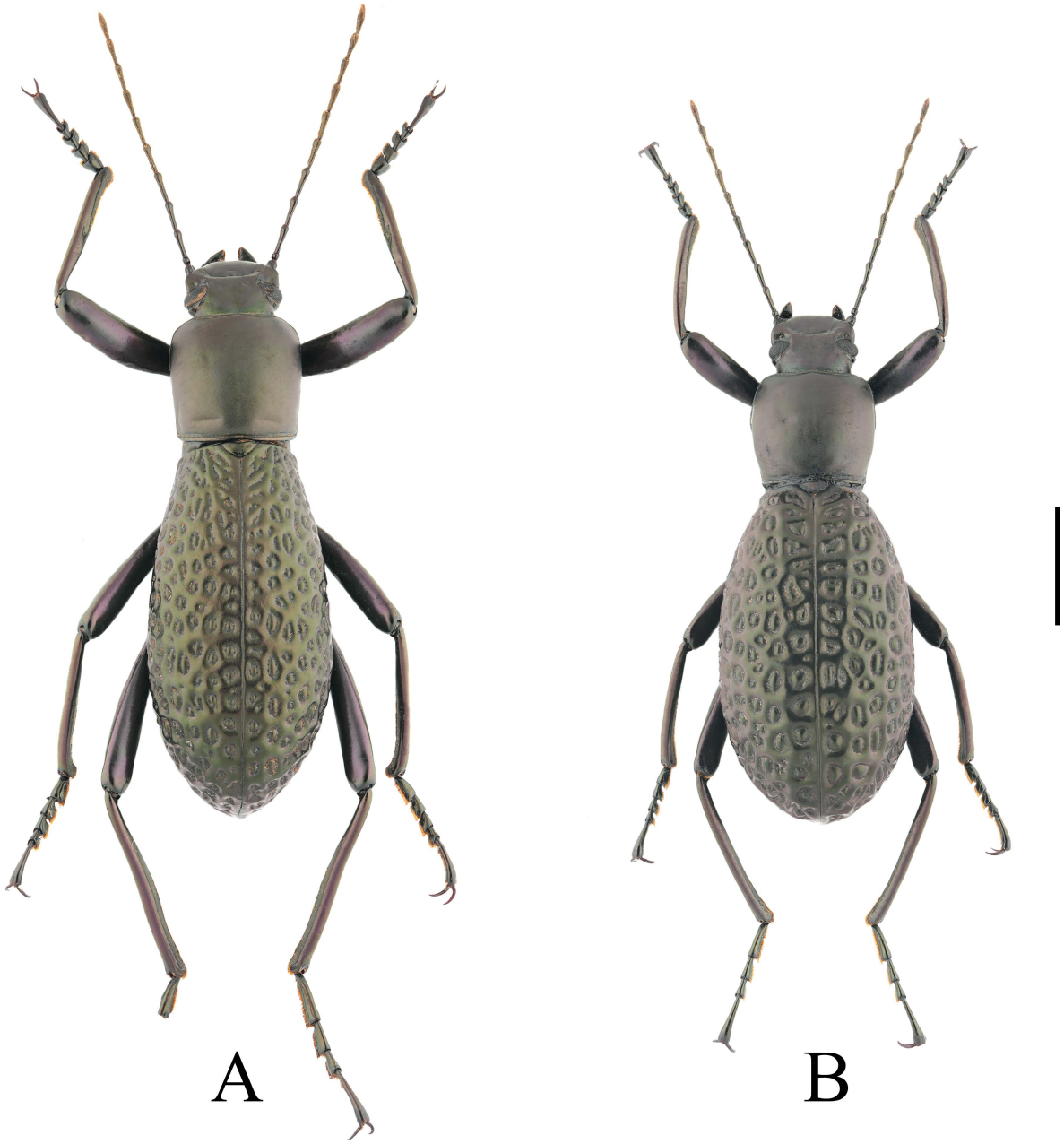


**FIGURE 5.** Habitus of *Morphostenophanes purpurascens* Zhou, 2020: **A** ♂, dorsal view **B** ♀, dorsal view. Scale bar: 5 mm.

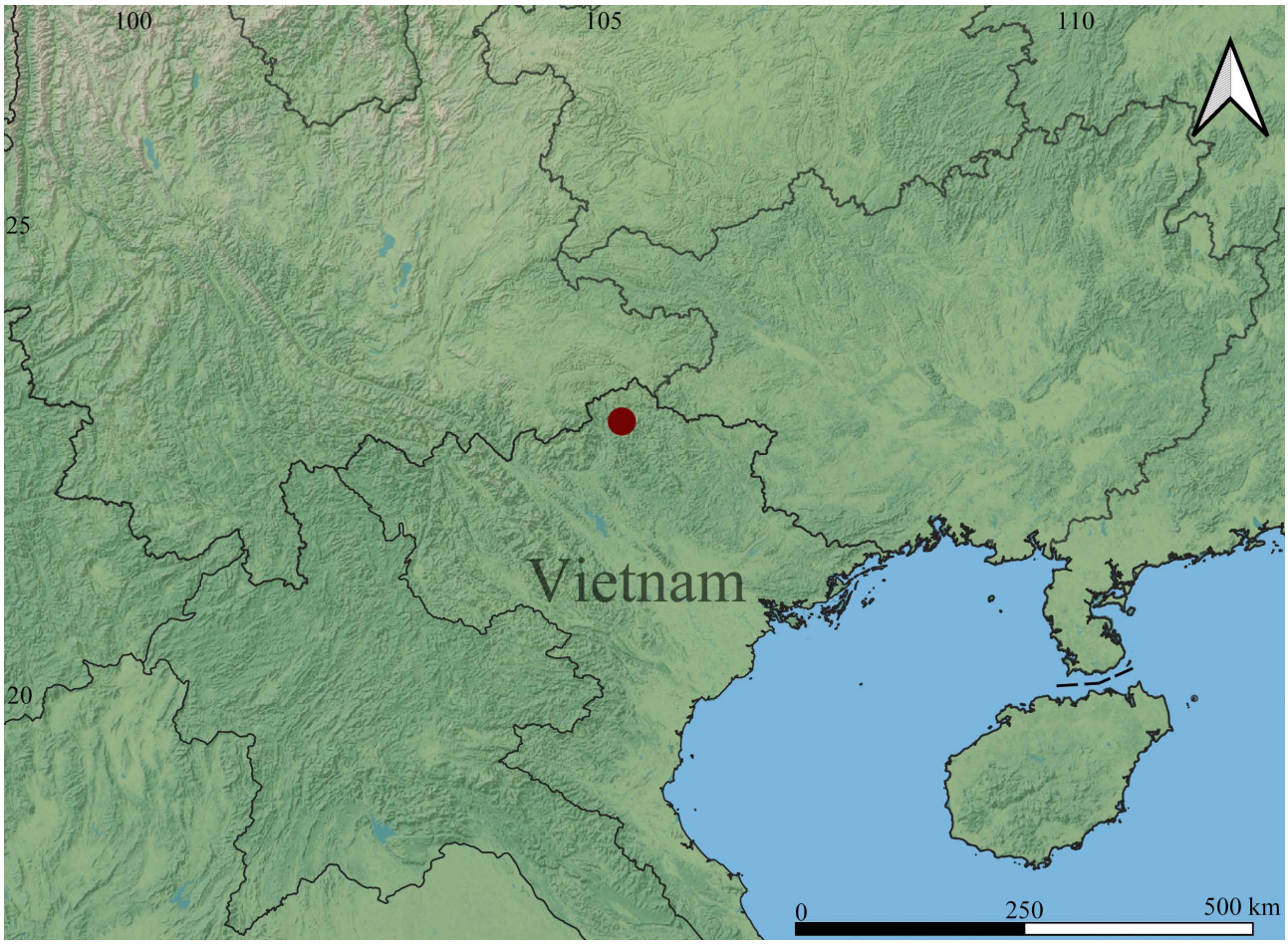


**FIGURE 6.** Distribution map of *Morphostenophanes orichalcos* **sp. nov.**

## Acknowledgements

The author sincerely thanks Mr. De-Yao Zhou (Shanghai, China) for his patience in answering questions on taxonomy and for his generous loans of material. Gratitude is also extended to Mr. Jia-Heng Chen (Beijing Forestry University, Beijing, China) for inspiring the name of the new species. Finally, the author is deeply grateful to Dr. Xing-Long Bai (Hebei University, Baoding, China) for his invaluable suggestions on manuscript improvement.

## References

Campbell JM & Marshall JD 1964: The ocular index and its applications to the taxonomy of the Alleculidae (Coleoptera). *The Coleopterists' Bulletin*, 18 (2): 42.

Gao Z-H & Ren G-D 2009: Taxonomy of the genus *Morphostenophanes* Pic from China, with two new species (Coleoptera, Tenebrionidae). *Acta Zoologica Academiae Scientiarum Hungaricae*, 55 (4): 307–319.

Kaszab Z 1941: Die indomalayischen Misolampinen (Coleopt., Tenebr.). *Annales Historico-Naturales Musei Nationalis Hungarici*, 34: 1–44, pl. 1.

Kaszab Z 1960: Neue orientalische Misolampinen (Coleoptera, Tenebrionidae). *Annales Historico-naturales Musei Nationalis Hungarici*, 52: 265–294.

Kaszab Z 1980: Angaben zur Kenntnis der Tenebrioniden Nordvietnams (Coleoptera). *Annales Historico-naturales Musei Nationalis Hungarici*, 72: 169–221.

Pic M 1925: Nouveautés diverses. *Mélanges Exotico-Entomologiques*, 44: 1–32.

Zhou D-Y 2020: A revision of the genus *Morphostenophanes* Pic, 1925 (Coleoptera, Tenebrionidae, Stenochiinae, Cnodalonini).

*Zootaxa*, 4769 (1): 1–81.
https://doi.org/10.11646/zootaxa.4769.1.1

## Additional information

**Author contributions:** The author solely contributed to this work.

**Conflict of interest:** The author has declared that no competing interests exist.

**Data availability:** All of the data that support the findings of this study are available in the main text.

**Ethical statement:** No ethical statement was reported.

**Funding:** This study was self-funded by the author.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of *ICE* and/or the editor(s). *ICE* and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.